

WHAT IS CLAIMED IS:

1. A control module for use in an image display system, comprising:

5 a gain module operable to amplify a signal received by the control module and to communicate an amplified signal having at least one clipped pixel, wherein the at least one clipped pixel is capable of generating a color having a hue that is substantially different than a hue of a color that was intended to be generated by the 10 signal; and

15 a formatter coupled to the gain module, the formatter operable to receive the amplified signal and to adjust the hue of the color associated with the at least one clipped pixel, wherein the hue of the color associated with the at least one clipped pixel is 20 adjusted to substantially the hue of the color that was intended to be generated by the signal.

25 2. The control module of Claim 1, wherein the formatter includes a hue correction algorithm that adjusts the hue of the at least one clipped pixel to substantially the hue of the color that was intended to be generated by the signal.

30 3. The control module of Claim 2, wherein the hue correction algorithm adjusts a saturation level associated with the color that was intended to be generated by the signal to a desired color.

4. The control module of Claim 1, wherein the formatter adjusts the hue of the color associated with the clipped pixel and a saturation level associated with

the color that was intended to be generated by the signal to a color having a substantially similar hue and a substantially similar saturation level as the color that was intended to be generated by the signal.

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5. The control module of Claim 1, wherein the formatter adjusts the hue of the color associated with the clipped pixel and a saturation level associated with the color that was intended by the signal to a color 10 having a substantially similar hue and a different saturation level as the color that was intended to be generated by the signal.

6. The control module of Claim 1, further 15 comprising a spatial light modulator operable to receive the hue adjusted signal.

7. The control module of Claim 6, wherein the spatial light modulator is selected from the group 20 consisting of a digital micro-mirror device, a reflective liquid crystal modulator, and a light emitting diode modulator.

8. The control module of Claim 1, further 25 comprising:

a memory coupled to the formatter and capable of storing data associated with a hue correction algorithm;

a video processing module coupled to the gain module and capable of processing the signal received by the 30 control module on a frame-by-frame basis; and

a processor capable of determining a position of an adjustable aperture based at least in part on a maximum number of clipped pixels.

9. A method of correcting a hue of a clipped pixel in an image display system, comprising:

amplifying a signal received by a control module;

communicating to a formatter an amplified signal 5 having at least one clipped pixel, wherein the at least one clipped pixel is capable of generating a color having a hue that is substantially different than a hue of a color that was intended to be generated by the signal;

adjusting the hue of the color associated with the 10 at least one clipped pixel, wherein the hue of the color associated with the at least one clipped pixel is adjusted to substantially the hue of the color that was intended to be generated by the signal.

15 10. The method of Claim 9, wherein adjusting the hue of the color associated with the at least one clipped pixel comprises:

scaling a color component having a first amplified color level to a maximum color level, the color component 20 comprising a first color component having the largest color level before amplification; and

adjusting a color component having a second amplified color level to a first intermediate color level, the color component comprising a second color 25 component having a color level smaller than the first color component before amplification; and

adjusting a color component having a third amplified color level to a second intermediate color level, the color component comprising a third color component having 30 a color level smaller than the first color component and the second color component before amplification;

wherein adjusting the color component having the second amplified color level is based at least in part on the scaled color component having the maximum color level, the first color component having the largest color 5 level before amplification, and the third color component having a color level smaller than the first color component and the second color component before amplification.

10 11. The method of Claim 10, wherein adjusting the color component having the second color level and adjusting the color component having the third amplified color level is based at least in part on a value associated with a desaturation variable.

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12. The method of Claim 9, wherein adjusting the hue of the color associated with the at least one clipped pixel comprises adjusting the hue of the color associated with the clipped pixel and a saturation level associated 20 with the color that was intended to be generated by the signal to a color having a substantially similar hue and a substantially similar saturation level as the color that was intended to be generated by the signal.

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13. The method of Claim 9, wherein adjusting the hue of the color associated with the at least one clipped pixel comprises adjusting the hue of the color associated with the clipped pixel and a saturation level associated with the color that was intended by the signal to a color 30 having a substantially similar hue and a different saturation level as the color that was intended to be generated by the signal.

14. The method of Claim 9, wherein the formatter includes a hue correction algorithm that adjusts the hue of the at least one clipped pixel to substantially the 5 hue of the color that was intended to be generated by the signal.

15. The method of Claim 14, wherein the hue correction algorithm adjusts a saturation level 10 associated with the color that was intended to be generated by the signal to a desired color.

16. The method of Claim 9, further comprising communicating the adjusted amplified signal to a 15 modulator.

17. The method of Claim 16, wherein the modulator is selected from the group consisting of a digital micro-mirror device, a reflective liquid crystal modulator, and 20 a light emitting diode modulator.

18. A method of adjusting a hue of a color associated with at least one clipped pixel to a hue of a color that was intended to be generated by a signal received by an image display system, comprising:

5 scaling a color component having a first amplified color level to a maximum color level, the color component comprising a first color component having a largest color level before amplification of the signal;

10 adjusting a color component having a second amplified color level to a first intermediate color level, the color component comprising a second color component having a color level smaller than the first color component before amplification of the signal; and

15 adjusting a color component having a third amplified color level to a second intermediate color level, the color component comprising a third color component having a color level smaller than the first color component and the second color component before amplification of the signal;

20 wherein adjusting the color component having the second amplified color level is based at least in part on the scaled color component having the maximum color level, the first color component having the largest color level before amplification, and the third color component 25 having a color level smaller than the first color component and the second color component before amplification.

19. The method of Claim 18, wherein adjusting the 30 color component having the second amplified color level and adjusting the color component having the third

amplified color level is based at least in part on a value associated with a desaturation variable.

20. The method of Claim 19, wherein the hue of the
5 color associated with the clipped pixel and a saturation
level associated with the color that was intended by the
signal can be adjusted to a color having a substantially
similar hue and a different saturation level as the color
that was intended to be generated by the signal.